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ABSTRACT

This paper discusses a survey undertaken to assess the attitudes of over 2,000 high school students towards economic issues and economics courses. The premise of the survey was that more studies evaluating economics instruction at the high school level overemphasize achievement and knowledge outcomes and fail to measure attitude outcomes. The instrument devised to measure economics-related student attitudes was the Survey on Economic Attitudes (SEA). The paper is divided into three major sections. In Section I, information is presented on development of the SEA measurement instrument. Topics discussed include problems of devising measurement instruments for high school students, steps taken to insure that the measurement instrument would possess content validity, and selection of the 14 final items for the attitude measure with regard to nine broad topics--government regulation, taxation, welfare, inflation, unemployment, incentives, power-concentration, foreign trade, and economic growth. Section II focuses on several validity and reliability studies which were based on the SEA and conducted during 1979. The final section discusses advantages of the SEA instrument. Advantages include that it can be administered conveniently in whole or in part within a 10 to 15 minute time frame, can be easily read and understood by high school students, and is valid for economic attitude sophistication as well as attitudes towards economics as a subject. The document concludes with an appendix containing an outline of the instrument development process and a copy of the measurement instrument. (DB)

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MEASURING ECONOMIC ATTITUDES IN HIGH SCHOOL

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MEASURING ECONOMIC ATTITUDES IN HIGH SCHOOL

Recent research in social education has focused on the measurement of student attitudes. For example, studies have been reported on law-related attitudes among junior high school students (Frazer and Smith, 1980), senior high school students attitudes towards world studies (Grant and Napier, 1981), and adolescent attitudes towards the police (Mackey and Ahlgren, 1980). This increased interest in attitude assessment is laudable since the development of positive attitudes is often an objective of social education (Ehman, Mehlinger, and Patrick, 1974; p. 102) and the use of new instruments for measuring attitudes may provide teachers and researchers with valuable information on the impact of classroom instruction.

The evaluation of economics instruction at the high school level typically involves examining student outcomes in the cognitive domain using a test of economic understanding, but unfortunately, most studies fail to measure attitude outcomes in the affective domain (Dawson, 1977; p. 76). There are several reasons for this neglect of attitude measurement: First, the necessary attitude instruments are not available. Second, existing attitude measures were poorly developed and report limited information on instrument reliability or validity. Third, economic attitudes have been perceived by researchers as too complex to define or to measure (Soper, 1977; p. 235). With increasing state, school district, and teacher interest in economics instruction (Yankelovich, Skelly, and White, 1981), a need exists for reliable and valid economic attitude measures which can be used with cognitive tests to fully document the effects of economic education.

This study details the development and national norming of the two-part Survey on Economic Attitudes (SEA). The first part of the SEA measures high school students' attitudes towards economics (ATE) as a subject, while the second part of the SEA assesses high school students' attitudes towards economic issues, or economic attitude sophistication (EAS). The instrument design and the results from a national validity and reliability study are reported in the first two sections. The final section discusses the uses and limitations of the new attitude measure.[1]

Instrument Development

The initial development of both parts of the SEA was conducted by a national committee on economic attitude measurement which included six economists and a marketing researcher. The purpose of the committee was to develop an instrument to measure student attitudes towards economics and economic issues which would be suitable for use with a cognitive economics test (Soper, 1979), as part of a national evaluation of high school economic education programs.[2] An outline of the extensive instrument development process is contained in Table 1 and a copy of the instrument is provided in Appendix 1.

Insert Table 1 about here

Attitudes Towards Economics: SEA Part I

A review of existing ATE instruments was conducted by the committee to determine their suitability for use with high school students. The best instrument identified was previously developed by Hodgin and Manahan (1979) for use with college students. The committee decided that this instrument,

with slight language modification, could also be used at the high school level since the reading level was easy and the instrument could be administered in a short period. The developers reported a split half reliability of .78 and a content and construct validity review by other economists. A committee pretesting of the instrument with 231 high school students in the midwest showed an improved reliability estimate of .86 (Cronbach alpha) and a standard error of measurement of 3.00. After reviewing the instrument and preliminary results, the committee considered the slightly modified instrument suitable for national use.

Economic Attitude Sophistication on Issues: SEA Part II

A review of existing attitude instruments on economic issues uncovered no usable possibilities. Some instruments were simply too difficult to read for high school students. Other instruments had questionable measurement characteristics. For example, instruments for measuring student liberalism or conservatism on economic issues appeared to be of questionable validity given the problems of judging whether a response to an attitude statement represented a liberal or conservative view. Also, simply reporting percentage responses to individual attitude items can be criticized since it is similar to selecting one multiple choice item out of a cognitive test and reporting the percentage responses to each alternative. What is of most interest is the overall cognitive or affective score, not a single item response, as a single item provides little valid or reliable information. The problems, therefore, of interpreting the polar ends of an attitude statement and the diversity of economic issues made the creation of an index measure of attitude towards economic issues a difficult task.

To solve the scale interpretation problems, the committee adopted the Mann and Fusfeld (1970) attitude sophistication approach:

> "Attitude sophistication means that opinions are consistent with the current state of knowledge. Although economists may differ about economic goals and the means of attaining them, there is a body of economic knowledge with which most members of the discipline agree. Applying that knowledge to a specific problem often leads to similar conclusions or opinions in spite of differing ideologies. Such opinions reflect a high degree of knowledge and rational analysis of the problem, and can correctly be termed sophisticated." (p. 112)

The committee interpreted "the current state of knowledge" to be the consensus view of the economics profession on an issue. Research by Kearl, et al.(1979) indicated that economists hold consensus views on a number of economic issues, especially on microeconomic topics. The committee work, then, specifically focused on developing an instrument which measured the extent to which high school student views are in agreement with the consensus views of the economics profession.

To insure that the instrument possessed content validity, it had to include a variety of economic issues. Nine broad topics were chosen for issue statements: government regulation, taxation, welfare, inflation, unemployment, incentives, power-concentration, foreign trade, and economic growth. Over 200 preliminary statements were written for the major topics. A subcommittee then selected the best 30 issue statements for a pretest EAS instrument (about three for each topic). The selection criteria for the 30 issue statements were:

1) The "economics profession" should have a consensus position of agreement or disagreement with the statement;
2) the statement should focus on a "live" economic issue in

the above areas which is controversial and unresolved in the public mind;

3) the statement should have low cognitive content, limited economics jargon, and have a reading level suitable for use with juniors and seniors in high school; and,

4) statements should meet school district approval for use with students.

To meet the first criterion and to establish initial construct validity, the 30-item measure was rated by a group of six economists plus the whole committee. In addition, the 30-item measure was administered to about 480 eleventh and twelfth grade students in three midwestern high schools to obtain information for reliability assessment.

The selection of the final 14 items for the attitude measure involved a combined use of pretest validity and reliability information. First, to improve the construct validity of the measure only those items with a seventy percent agreement or disagreement rating from among the outside economists and the national committee were considered for the final measure. Second, the content validity was maintained by insuring that most topics previously identified were represented by at least one or two statements and that the statements met criteria two through four.[3] Third, the statements were judged for their individual contribution to the overall reliability of the index by examining the item-to-scale correlations. The pretest data indicated the internal consistency reliability of the final 14-item instrument was .53 (Cronbach alpha), a reasonable estimate given the difficulty of assessing attitudes towards economic issues and limited number of items in the instrument. The

final instrument appeared to have sufficient content validity, construct validity, and reliability for national use.

National Validity and Reliability Studies

The initial instrument development produced two measures of potential value, but more information was needed on the validity and reliability of the ATE and EAS measures, especially for the EAS. Consequently, both measures were administered to a national sample of high school students, and regional samples of college students and professors to further document the construct validity and reliability of the measures. Also, a national validity survey was conducted with the EAS measure to check the plus (+) or minus (-) weighting for instrument items.

National Validity Study with Selected Groups

The SEA was nationally normed in May, 1979, using a sample of 1,747 juniors and seniors in high schools. The Purdue University Measurement Research Center selected the sample and collected the data based on necessary constraints imposed by the evaluation of the two economic education programs. The sample contained a diverse group that included students from all geographic regions, different population areas (urban, rural, suburban), and various sized schools. While a range of student differences in economic knowledge, attitudes, intelligence, and background are found in the sample, no claim is made that the sample is exactly representative of the student population enrolled in public high schools. There is, however, a high probability that this sample is fairly representative of the diverse high school population.

To determine whether the ATE or EAS scales could distinguish between known groups with different attitude structures, external validity tests were conducted using the national sample and selected groups. The SEA was administered to a group of 28 professors of social studies, business education, or home economics who taught consumer education courses at 26 colleges and universities in the midwest. This group had expressed an interest in economics by participating in a two-week program in economics and consumer education.[4] Most of the group had prior college course work in economics and in their classrooms they helped students analyze economic issues. It was expected, therefore, that this group of college educators would show a significantly more positive ATE and higher degree of EAS than the national high school sample.

The ATE and EAS measures were also administered on a pre- and posttest basis to a sample of college students taking a course in principles of microeconomics at one midwestern university and on a posttest basis to a sample of juniors at another university taking courses in money and banking or intermediate macroeconomics. The mean differences in ATE and EAS between the high school sample and the college samples were expected to be significant and in favor of the college groups. Less certainty could be expressed about the significance of the differences between the professor and college student samples, but it was highly probably, given the extent of exposure to economics, that the professor sample would exhibit the highest degree of EAS and most positive ATE, followed by the advanced undergraduate sample, and then the principles sample.

The means and standard deviations of the groups and the t-value comparisons are provided in Table 2. The mean rankings are in the expected directions and the t-test comparisons between each group on either the ATE or EAS are statistically significant. The only exception was the insignificant contrast between high school students and pre-economics college students on the ATE, but this result was not completely unexpected given the close similarity between the two groups. Although the sample sizes for the college students and professor samples are relatively small, the mean ranking and the significant t-values provide good construct validity evidence for the ability of the ATE and EAS measures to distinguish among groups.

Insert Table 2 about here

National Validity Survey

The initial validity assessment for the weighting of the EAS items was completed by a small, select group of economists (N=13), and thus could be considered a weak part of the development process. To further check the construct validity of the EAS instrument, a national survey was conducted of directors of councils and centers for economic education which are affiliated with the Joint Council on Economic Education. This sample was selected for validation purposes since most directors hold advanced degrees in economics, teach undergraduate or graduate courses in economics in over 200 colleges and universities across the nation, and could probably respond to the survey. A complete sample of 231

directors was mailed a twenty-statement questionnaire. The respondents were asked to check the survey forms for whether they agreed with the statement, disagreed with the statement, or rated the statement as unacceptable for a response. The questionnaire, with some additional information, was to be returned unsigned in a reply envelope.

The questionnaire contained a random mix of the 14 pretested items and six distractor items which were originally rejected by the national committee and a group of economists. The expected result was that the respondents would show a clear consensus (greater than two-thirds agreement or disagreement) on the 14 best statements and no clear consensus on the six distractor items. This validity test would:

1) Reconfirm the item selection judgments of the national committee and outside economists;
2) check the discrimination ability of the respondents, or accuracy of the survey; and,
3) provide additional national evidence for a consensus view on selected economic issues.

Over 64 percent, or 149 respondents, returned forms, providing a credible sample for construct validity analysis. As shown in Table 3, a clear consensus was expressed on the 14 items with the mean agreement or disagreement of 85 percent and a range from 70 to 99 percent. The mean percent agree or disagree for the six distractor items was 44 percent and ranged from 25 to 68 percent.

Insert Table 3 about here

A further analysis was conducted with the subset of responses from only council or center directors who reported holding a Ph.D. degree in economics (N=71). The subset results were almost identical to the total results, showing a scale mean of 85 percent consensus and an item range from 68 to 100 percent. The mean agree or disagree for the distractor items was 43 percent with a range from 17 to 67 percent. The survey results provide support for EAS scale construct and the plus (+) or minus (-) weighting for the 14 items.

Reliability

Reporting data on the reliability of a measure is a necessary part of any attitude measurement process. Estimates for the internal consistency, or interrelationship among items on either the ATE or EAS measures, are provided by the Cronbach alphas (α) in Table 2. The ATE measure showed good reliability with an alpha of .88 for the high school sample. Similar results were produced when the instrument was administered to the college samples and the professor sample. The fourteen-item survey appears to provide a consistent measure of attitudes towards economics as a subject across many groups.

The reliability estimate for the EAS measure with the high school sample improved markedly over the initial development assessment, from .53 to .66. This result is still lower than most cognitive tests, but the short length of the measure and the difficulty of assessing opinions on diverse economic issues may explain the lower internal consistency of the measure. Also, the reliability estimate is good in relation to many affective measures developed in education (Johnson, 1976).

With other groups, the EAS results show some variation in reliability. For beginning undergraduates, advanced undergraduates, and the college professors, the alphas were .71, .61, and .78, respectively. The specific reasons for the reliability differences are difficult to identify and may be due to the characteristic of the EAS measure or the samples selected. The composite picture, however, indicates an acceptable range of measurement consistency for the EAS survey.

Uses of the Survey on Economic Attitudes

The SEA instrument can be administered conveniently in whole or in part within a ten to fifteen minute time frame, making the SEA suitable for use with a cognitive measure during a limited classroom evaluation period. The SEA can be hand scored by reverse coding eight items on the ATE index and two items on the EAS index, and item scores for each part can then be summed to obtain index scores. The item statements can be easily read by high school students and the general "Survey on Economic Attitudes" title for either the ATE or EAS measure does not appear to cause a response bias among students.

The results from the national reliability and validity studies indicate the ability of the SEA instrument to detect either "attitudes towards economics as a subject," or "economic attitude sophistication" among juniors and seniors in high schools with some degree of certainty. This information on the development and technical properties of the measures also represent a distinct improvement over many ad hoc economic attitude measures. As with any attitude measure, though, caution must be exercised in the use and interpretation of the instrument. For

example, a more positive ATE may be an intended outcome for a course in economics, but a class which holds a negative ATE should not be viewed as "bad" or "wrong." The ATE simply provides an index of class sentiment about economics which may be useful information for teachers or researchers.

Similarly, the EAS measure is not a list of "right" opinions nor is it designed to force students to adopt the consensus views of economists on economic issues. The EAS measure simply assesses the degree or tendency of a student to hold opinions consistent with the current state of knowledge. A high degree of EAS may not be and probably should not be an expressed outcome from a course or a program. In addition, there may be a tendency for users of the EAS measure to report both before and after item statistics on certain controversial topics (i.e., profits) in order to demonstrate the effect of a program on a particular issue. This type of item interpretation is an invalid use of the instrument since scores should be reported in the aggregate or as an index of student attitudes.

In summary, exposure to instruction in economics may have an impact on economic knowledge and attitudes towards the subject or economic issues. These cognitive and affective outcomes in economics or social studies courses are worth assessing as teachers and researchers explore the educational process. The SEA provides an attitude measurement tool with good validity, reliability, and known characteristics. Preliminary analysis of the technical properties indicates that this survey instrument should be of value in research and evaluation applications.

Footnotes

[1]A previous version of this study was presented at the American Council on Consumer Interests 27th Annual Conference in April, 1981.

[2]The committee was organized initially by the Joint Council on Economic Education, but operated on an independent basis. The committee members were: W. Walstad (chair), J. Henry, W. Luker, J. Menahan, P. Senn, J. Soper, and R. Strom. The data collection was sponsored by the Joint Council as part of an evaluation of its Developmental Economic Education Program (DEEP) and economics teaching awards program. For a study on the results of the evaluation, see Walstad and Soper (forthcoming).

[3]No item concerning foreign trade met reliability or validity tests, so that topic is not represented in the instrument.

[4]The 1980 Consumer Economics Institute for College and University Consumer Teacher Educators, held in St. Louis, Missouri.

References

1. Dawson, G. G. "Research in Economic Education at the Pre-College Level," in D. R. Wentworth, et al. (ed.) Perspectives on Economic Education. New York: Joint Council on Economic Education, National Council for the Social Studies, and Social Science Education Consortium, 1977, pp. 85-103.
2. Ehman, L., Mehlinger, H. and Patrick, J. Toward Effective Instruction in Secondary Social Studies. Boston: Houghton Mifflin Co., 1974.
3. Frazer, B. J. and Smith, D. L. "Assessment of Law-related Attitudes." Social Education, 44:5 (May 1980), pp. 406-409.
4. Grant, E. T. and Napier, J. D. "Comparing an Aesthetic and Political Approach to Teaching World History." Social Education, 45:5 (May 1981), pp. 372-75.
5. Hodgin, R. and Manahan, J. "Affect and Cognition in Principles of Economics: Attitude as a Predictor of Student Achievement," in R. J. Strom and J. R. Clark (eds.), Economics: Innovations in Teaching the Introductory Course. New York: Joint Council on Economic Education, 1979, pp. 93-99.
6. Johnson, O. S. Test and Measurements in Child Development: Handbook II. Volume 2. San Francisco, California; Jossey-Bass, 1976.
7. Kearl, J. R., Pope, C. L., Whiting, G. C., and Wimmer, L. T. "A Confusion of Economists?" American Economic Review: Papers and Proceedings 69:2 (May 1979), pp. 28-37.
8. Mackey, J. and Ahlgren, A. "A Pictorial Measure of Adolescent Perceptions of the Police." Social Education, 44:3 (March 1980), pp. 224-227, 248.

9. Mann, W. R. and Fusfeld, D. R. "Attitude Sophistication and Effective Teaching in Economics." Journal of Economic Education, 1 (Spring 1970), pp. 111-129.

10. Soper, J. C. "Needs for Evaluation in Economic Education," in D. R. Wentworth, et al. (ed.) Perspectives on Economic Education. New York: Joint Council on Economic Education, National Council for the Social Studies, and Social Science Education Consortium, 1977, pp. 231-247.

11. Soper, J. C. Test of Economic Literacy: Discussion Guide and Rationale. New York: Joint Council on Economic Education, 1979.

12. Walstad, W. B. and Soper, J. C. "A Model of Economics Learning in the High Schools," Journal of Economic Education, forthcoming.

13. Yankelovich, Skelly, and White, Inc. National Survey of Economic Education 1981. Phillips Petroleum Co., 1981.

Table 1

SEA Development Procedures

Procedure	Analysis	ATE Result	EAS Result
1. Review Previous instruments	Judgment by national committee	Selected H-M instrument .78 split half reliability. Passed review	None found suitable for use
2. Select topics and write items	Judgment by national committee	Not necessary	200 items developed and 30 items selected for further study
3. Pretest reliability	Internal consistency	.86 alpha with high school (N=231)	14 of 30 items selected for use. .53 alpha with high school sample (N=480)
4. Pretest validity	Construct and content validity. Judgment by national committee and outside economists	Instrument accepted as valid measure	14 items showed > 70% consensus in ratings. (N=13)
5. National validity check with groups	Construct validity. t-test of sample means between high school (N=1747), college(N=77 and N=46) and professor (N=28)samples.	Significant differences in expected direction across most samples	Significant differences in expected direction across all samples
6. National validity	Construct validity Rating by experts.	Not necessary	Mean consensus of 85% for scale. Item consensus ranged from 70% to 99% (N=149). Similar results for subset of Ph.D. economists (N=71).
7. National Reliability study	Internal consistency	.88 alpha with high school. .89 to .86 with college and professor samples.	.66 alpha with high school. .61 to .78 with college and professor samples.

Table 2

Group Differences in ATE and EAS

	Groups	ATE $\bar{X}$	ATE S.D.	ATE α	EAS $\bar{X}$	EAS S.D.	EAS α
A.	High School (1747)[1]	46.41.	9.26	.88	47.10	6.92	.66
B.	College-Pre (76)	45.68	6.54	.86	48.68	5.45	.58
C.	College-Post (76)	49.59	8.30	.89	50.89	6.21	.71
D.	College-Advanced (46)	52.76	7.41	.86	53.20	5.71	.61
E.	College Profs. (28)	55.28	7.63	.89	56.75	6.52	.78

t-values for Group Contrasts

	AB	AC	AD	AE	BC	BD	BE	CD	CE
ATE	-.94	3.26**	5.11**	6.08**	3.23**	5.34**	5.91**	2.19**	3.29**
EAS	2.44*	4.50**	7.12**	7.76**	2.34*	4.31**	5.85**	2.09**	4.12**

* Significant at .05 level.

** Significant at .01 level.

[1] Sample size in parentheses

Table 3

National Validity Survey
(N = 149)

		Percent		
		Agree	Disagree	Unacceptable
1.	*U.S. labor unions are too strong.	27.0	39.9	33.1
2.	Government should control the price of gasoline.	5.4	89.3	5.4
3.	Inflation is caused by greedy business and union leaders.	4.7	85.2	10.1
4.	Business makes too much profit	4.7	85.2	10.1
5.	*Government should guarantee an income for all people.	26.2	67.8	6.0
6.	People should not have to pay taxes.	0.0	95.3	4.7
7.	Free medical care should be provided for all Americans.	10.8	77.7	11.5
8.	Banks should not charge interest on loans to customers.	0.0	99.3	0.7
9.	*We should save our natural resources for future use.	25.5	36.2	38.3
10.	Most people who don't have jobs are too lazy to work.	3.4	89.9	6.7
11.	When a business gets big, it should be controlled by government.	7.4	73.8	8.8
12.	New factories are not needed	0.0	96.6	3.4
13.	*Everyone who wants to work should be provided with a job.	37.8	40.5	21.6
14.	People should not be told how to spend their money.	85.9	8.7	5.4
15.	If everybody had more money, we'd all be better off.	2.0	88.6	9.4
16.	Profits should not be regulated by government.	70.3	15.5	14.2
17.	*A clean environment is not more important than economic growth.	25.2	18.4	56.5
18.	Most unemployed people are lazy.	4.7	91.3	4.0
19.	When a strike occurs, government should step in and settle the dispute.	3.4	72.3	24.3
20.	*Government should not provide food stamps for the poor.	26.4	54.1	19.6

*Distractor items

Appendix 1

Survey on Economic Attitudes:

Attitudes Towards Economics

(N = 2,048 high school students)

Directions: Please indicate your opinions about the following statements. Mark 1 if you strongly agree; mark 2 if you agree; mark 3 if you are undecided; mark 4 if you disagree; mark 5 if you strongly disagree.

		$\bar{X}$	σ
1.	I enjoy reading articles about economic topics. (+)	3.181	0.991
2.	I hate economics. (-)	3.698	0.995
3.	Economics is easy for me to understand. (+)	3.053	1.064
4.	Economics is dull. (-)	3.249	1.128
5.	I enjoy economics. (+)	3.177	0.991
6.	Studying economics is a waste of time. (-)	4.166	0.929
7.	Economics is one of my most dreaded subjects. (-)	3.579	1.043
8.	On occasion I read an unassigned book in economics. (+)	2.238	1.120
9.	I would be willing to attend a lecture by an economist. (+)	3.139	1.118
10.	Economics is a very difficult subject for me. (-)	3.348	1.079
11.	Economics is one of my favorite subjects. (+)	2.633	1.014
12.	I use economic concepts to analyze situations. (+)	3.019	1.054
13.	Economics is practical. (+)	4.071	0.866
14.	Economic ideas are dumb. (-)	4.199	0.894

(+) Indicates the positive ATE response is to agree strongly. Plus (+) items are reverse coded in scoring.

(-) Indicates the positive ATE response is to disagree strongly.

Appendix 1 (continued)

Survey on Economic Attitudes:

Economic Attitude Sophistfcation

(N = 2,048 high school students)

		$\bar{X}$	σ
1.	Government should control the price of gasoline. (-)	2.527	1.286
2.	Inflation is caused by greedy business and union leaders. (-)	2.962	1.183
3.	Business makes too much profit. (-)	3.075	1.056
4.	People should not have to pay taxes. (-)	3.841	1.079
5.	Free medical care should be provided for all Americans. (-)	3.276	1.216
6.	Banks should not charge interest on loans to customers. (-)	3.769	1.018
7.	Most people who don't have jobs are too lazy to work. (-)	3.226	1.244
8.	When a business gets big, it should be controlled by government. (-)	3.618	1.082
9.	New factories are not needed. (-)	3.865	0.981
10.	People should not be told how to spend their money. (+)	4.111	1.030
11.	If everybody had more money, we'd all be better off. (-)	3.607	1.088
12.	Profits should not be regulated by government. (+)	3.144	1.024
13.	Most unemployed people are lazy. (-)	3.435	1.142
14.	When a strike occurs, government should step in and settle the dispute. (-)	3.016	1.074

(+) Indicates the sophisticated response is to agree strongly. Plus (+) items are reverse coded in scoring.

(-) Indicates the sophisticated response is to disagree strongly.